BRUHATH BANGALORE MAHANAGARA PALIKE
Byatarayanapura Division

Name of the work: Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.

ailed Measurements

P: 29

Bruhat Bengaluru Mahanagara Palike

Bytarayanapura Division

Job Code :- 007-16-000035,007-16-000036,007-16-000037,007-16-000038,007-16-000039,007-16-000040,008-16-000033,008-16-000034,008-16-000035, 26621

Name of Agency :- M/s.Ram and Company

Bill No :4th and Part Bill

Name Of work : -Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.

BOQ Item	Description / Chainage		Side	Nos	L	B1	B2	Avg width	Depth	Quantity	Remarks
1	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2016-17)										
	BGS Layout										
	0.00	15.00		1.00	15.00			2.55	0.40	15.30	
	15.00	30.00		1.00	15.00			2.45	0.45	16.54	
	30.00	45.00		1.00	15.00			2.55	0.50	19.13	
	45.00	60.00		1.00	15.00			2.50	0.40	15.00	
	60.00	75.00		1.00	15.00			2.50	0.50	18.75	
	75.00	90.00		1.00	15.00			2.55	0.45	17.21	
	90.00	105.00		1.00	15.00			2.40	0.50	18.00	
	105.00	120.00		1.00	15.00			2.40	0.55	19.62	
	120.00	135.00		1.00	15.00			2.45	0.50	18.38	
	135.00	150.00		1.00	15.00			2.40	0.50	18.00	
	150.00	160.00		1.00	10.00			2.40	0.50	12.00	
									Total	**187.92**	**Cum**

HEJUS CONSULTANTS
Consultant

Assistant Engineer

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

Assistant Executive Engineer

Detailed Measurements

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Name Of work : -Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.

BOQ Item	Description / Chainage	Side	Nos	L	B1	B2	Avg width	Depth	Quantity	Remarks
6	KSRB 2.8 : Providing and Filling in foundation with granite / trap broken metal 100mm. and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with all lead and lift. complete as per specifications. specification. No. KBS(P.No.6, I.No.2.15 of PW,P&IWTD S.R 2016-17									
	BGS Layout									
	0.00	15.00		1.00	15.00			2.55	0.30	11.48
	15.00	30.00		1.00	15.00			2.45	0.30	11.03
	30.00	45.00		1.00	15.00			2.55	0.30	11.48
	45.00	60.00		1.00	15.00			2.50	0.30	11.25
	60.00	75.00		1.00	15.00			2.50	0.30	11.25
	75.00	90.00		1.00	15.00			2.55	0.20	7.65
	90.00	105.00		1.00	15.00			2.40	0.25	9.00
	105.00	120.00		1.00	15.00			2.40	0.30	10.62
	120.00	135.00		1.00	15.00			2.45	0.30	11.03
	135.00	150.00		1.00	15.00			2.40	0.30	10.80
	150.00	160.00		1.00	10.00			2.40	0.30	7.20
								Total		**112.77** Cum

TEJUS CONSULTANTS

Consultant

Assistant Engineer

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

Assistant Executive Engineer

Detailed Measurements

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Name Of work : -Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.

BOQ Item	Description / Chainage		Side	Nos	L	B1	B2	Avg width	Depth	Quantity	Remarks
7	KSRB 4-1.2: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.892 cum and fine aggregates @ 0.465 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work									
	BGS Layout										
	0.00	15.00		1.00	15.00			2.55	0.15	5.74	
	15.00	30.00		1.00	15.00			2.45	0.15	5.51	
	30.00	45.00		1.00	15.00			2.55	0.15	5.74	
	45.00	60.00		1.00	15.00			2.50	0.15	5.63	
	60.00	75.00		1.00	15.00			2.50	0.15	5.63	
	75.00	90.00		1.00	15.00			2.55	0.12	4.59	
	90.00	105.00		1.00	15.00			2.40	0.10	3.60	
	105.00	120.00		1.00	15.00			2.40	0.15	5.40	
	120.00	135.00		1.00	15.00			2.45	0.15	5.51	
	135.00	150.00		1.00	15.00			2.40	0.15	5.40	
	150.00	160.00		1.00	10.00			2.40	0.15	3.60	
									Total	**56.34**	**Cum**

TEJUS CONSULTANTS

Consultant

Assistant Engineer

Assistant Executive Engineer
Kodigehalli Sub Division
Bangalore Mahanagara Palike
Bangalore - 560 092

ailed Measurements

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Name Of work : -Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding Areas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.

BOQ Item	Description / Chainage	Side	Nos	L	B1	B2	Avg width	Depth	Quantity	Remarks
13	KSRB 4.9.1: Providing TMT steel reinforcement for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost pf materials, labour, HOM of machinery complete as per specifications.Specification No. KBS 4.6.3 Page No. 17 / Item No. 4.46.2 / PWD SR 2016-17 - FE 500									
								Unit weight of steel / meter		
	New Drain									
	SWD									
	12 main U bars									
	inner main bars	1	1144	4.87				0.889	4952.87	
	outer main bars	1	1144	5.17				0.889	5257.97	
	chairs for Raft 10mm	1	600	0.95				0.617	351.69	
	Distribution bars									
	10mm Dia bars									
	inner main bars	1	28	160.00				0.617	2764.16	
	outer main bars	1	30	160.00				0.617	2961.60	
	chairs For Wall 10mm	2	720	0.95				0.617	844.06	
	12 main bars Top Slab									
	top main bars	1	1144	2.72				0.889	2766.28	
	bottom main bars	1	1144	2.72				0.889	2766.28	
	Distribution bars									
	10mm Dia bars									
	inner main bars	1	16	160.00				0.617	1579.52	
	chairs 10mm dia	1	540	1.2				0.617	399.82	
								Total	**24644.25**	**kgs**
									24.64	**MT**

Abhilash. N.D 02/3/18

Assistant Engineer

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

Assistant Executive Engineer

TEJUS CONSULTANTS

Consultant

33

me Of work : -Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding eas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.											
O Q em	Description / Chainage		Side	Nos	L	B1	B2	Avg width	Depth	Quantity	Remarks
8	KSRB 4-6.1: Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specifications. Specifcation No. KBS 4.6.2 (P.No.15, I.No.4.28 of PW, P&IWTD SR 2016-17)										
	BGS Layout,bottom raft										
	0.00	15.00		2.00	15.00				0.25	7.50	
	15.00	30.00		2.00	15.00				0.25	7.50	
	30.00	45.00		2.00	15.00				0.25	7.50	
	45.00	60.00		2.00	15.00				0.25	7.50	
	60.00	75.00		2.00	15.00				0.25	7.50	
	75.00	90.00		2.00	15.00				0.25	7.50	
	90.00	105.00		2.00	15.00				0.25	7.50	
	105.00	120.00		2.00	15.00				0.25	7.50	
	120.00	135.00		2.00	15.00				0.25	7.50	
	135.00	150.00		2.00	15.00				0.25	7.50	
	150.00	160.00		2.00	10.00				0.25	5.00	
								Total		**80.00**	**Sqm**
						Quantity Ltd to				**70.00**	**Sqm**

TEJUS CONSULTANTS

Consultant

Assistant Engineer

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092

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me Of work : -Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding eas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.

O Q em	Description / Chainage		Side	Nos	L	B1	B2	Avg width	Depth	Quantity	Remarks
	KSRB 4-6.4: Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for vertical surfaces such as walls at any thickness, including attached pilasters, buttresses, plinth and string courses cost of all materials, labour complete as per specifications. Specification No.KBS 4.6.2 (P.No.15, I.No.4.31 of PW,P&IWTD SR 2016-17)										
	BGS Layout,side walls										
	0.00	15.00		4.00	15.00	1.40	1.50	1.45		87.00	
	15.00	30.00		4.00	15.00	1.50	1.40	1.45		87.00	
	30.00	45.00		4.00	15.00	1.40	1.50	1.45		87.00	
	45.00	60.00		4.00	15.00	1.50	1.40	1.45		87.00	
	60.00	75.00		4.00	15.00	1.40	1.50	1.45		87.00	
	75.00	90.00		4.00	15.00	1.50	1.40	1.45		87.00	
	90.00	105.00		4.00	15.00	1.40	1.30	1.35		81.00	
	105.00	120.00		4.00	15.00	1.30	1.35	1.33		79.50	
	120.00	135.00		4.00	15.00	1.35	1.40	1.38		82.50	
	135.00	150.00		4.00	15.00	1.40	1.35	1.38		82.50	
	150.00	160.00		4.00	10.00	1.35	1.30	1.33		53.00	
									Total	**900.50**	**Sqm**
									Quantity Ltd to	**840.00**	**Sqm**

Consultant

Assistant Engineer

Assistant Executive Engineer
Kodigehalli Sub Division
Bangalore Mahanagara Palike
Bangalore - 560 092

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me Of work : -Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding eas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.

O Q em	Description / Chainage		Side	Nos	L	B1	B2	Avg width	Depth	Quantity	Remarks
10	KSRB 4-6.3 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for flat surface such as suspended floors, roofs, landings, balconies and likes, thickness above 200 mm including cost of all materials, labour complete as per Specification. Specification No. KBS 4.6.2(P.No.15, I.No.4.30 of PW,P&IWTD SR 2016-17)										
	BGS Layout										
	Top Slab										
	0.00	15.00		1.00	15.00			2.50		37.50	
	15.00	30.00		1.00	15.00			2.40		36.00	
	30.00	45.00		1.00	15.00			2.50		37.50	
	45.00	60.00		1.00	15.00			2.45		36.75	
	60.00	75.00		1.00	15.00			2.45		36.75	
	75.00	90.00		1.00	15.00			2.50		37.50	
	90.00	105.00		1.00	15.00			2.35		35.25	
	105.00	120.00		1.00	15.00			2.35		35.25	
	120.00	135.00		1.00	15.00			2.40		36.00	
	135.00	150.00		1.00	15.00			2.35		35.25	
	150.00	160.00		1.00	10.00			2.35		23.50	
								Total		**387.25**	**Sqm**
						Quantity Ltd to				**296.00**	**Sqm**

Consultant

Assistant Engineer

Assistant Executive Engineer
Kodigehalli Sub Division
Bangalore Mahanagara Palike
Bangalore

Assistant Executive Engineer

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ame Of work : -Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding reas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.

BO Q tem	Description / Chainage		Side	Nos	L	B1	B2	Avg width	Depth	Quantity	Remarks
11	Providing and laying cement concrete using 20mm and downsize granite coarse aggregates and fine aggregates of ready mixed concrete (RMC) for RCC works laid in 15cms thick layers and well compacted vibrating, curing, finishing with necessary cement mortar, with all lead and lifts etc., complete (exclusive of cpost of steel and fabricaton charges) Ready Mixed Cement Concrete M 20 for Raft foundation, Column, Footing, main and secondary beams. (P.No.18, I.No.4.48 of PW, P&IWTD SR 2016-17)										
	BGS Layout										
	Bottom Slab										
	0.00	15.00		1.00	15.00			2.55	0.25	9.56	
	15.00	30.00		1.00	15.00			2.45	0.25	9.19	
	30.00	45.00		1.00	15.00			2.55	0.25	9.56	
	45.00	60.00		1.00	15.00			2.50	0.25	9.38	
	60.00	75.00		1.00	15.00			2.50	0.25	9.38	
	75.00	90.00		1.00	15.00			2.55	0.25	9.56	
	90.00	105.00		1.00	15.00			2.40	0.25	9.00	
	105.00	120.00		1.00	15.00			2.40	0.25	9.00	
	120.00	135.00		1.00	15.00			2.45	0.25	9.19	
	135.00	150.00		1.00	15.00			2.40	0.25	9.00	
	150.00	160.00		1.00	10.00			2.40	0.25	6.00	Abhilash.N.D 25/09/18.
	side walls										
	0.00	15.00		2.00	15.00			0.25	1.45	10.88	
	15.00	30.00		2.00	15.00			0.25	1.45	10.88	
	30.00	45.00		2.00	15.00			0.25	1.45	10.88	
	45.00	60.00		2.00	15.00			0.25	1.45	10.88	
	60.00	75.00		2.00	15.00			0.25	1.45	10.88	
	75.00	90.00		2.00	15.00			0.25	1.45	10.88	
	90.00	105.00		2.00	15.00			0.25	1.35	10.13	
	105.00	120.00		2.00	15.00			0.25	1.33	9.94	
	120.00	135.00		2.00	15.00			0.25	1.38	10.31	
	135.00	150.00		2.00	15.00			0.25	1.38	10.31	
	150.00	160.00		2.00	10.00			0.25	1.33	6.63	Abhilash.N.D 25/09/18
	Top Slab										
	0.00	15.00		1.00	15.00			2.50	0.25	9.38	
	15.00	30.00		1.00	15.00			2.40	0.25	9.00	
	30.00	45.00		1.00	15.00			2.50	0.25	9.38	
	45.00	60.00		1.00	15.00			2.45	0.25	9.19	
	60.00	75.00		1.00	15.00			2.45	0.25	9.19	

CRC

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Consultant

Abhilash.N.D
Assistant Engineer

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092
Assistant Executive Engineer

37

ame Of work : -Improvements to Roads and Drains at Jakkur Layout, BGS Layout, and Surrounding reas in Ward No 7 Thanisandra, Byatarayanapura Sub Divison.

O Q em	Description Chainage		Side	Nos	L	B1	B2	Avg width	Depth	Quantity	Remarks
	75.00	90.00		1.00	15.00			2.50	0.25	9.38	
	90.00	105.00		1.00	15.00			2.35	0.25	8.81	
	105.00	120.00		1.00	15.00			2.35	0.25	8.81	
	120.00	135.00		1.00	15.00			2.40	0.25	9.00	
	135.00	150.00		1.00	15.00			2.35	0.25	8.81	
	150.00	160.00		1.00	10.00			2.35	0.25	5.88	
									Total	308.19	Cum

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Consultant

Assistant Engineer 24/05/18

Assistant Executive Engineer

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore - 560 092